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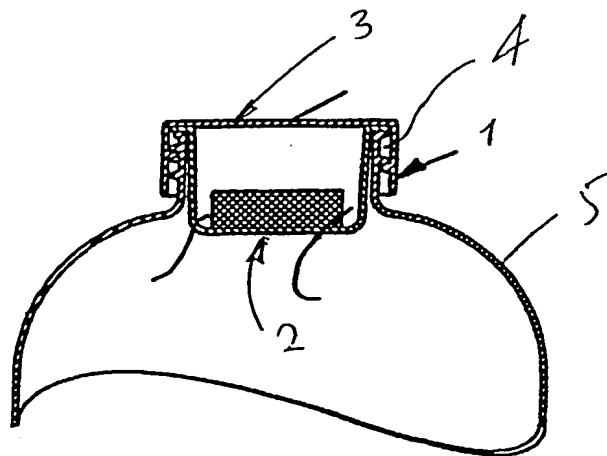
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ning of each regular issue of the PCT Gazette.

(54) Title: CONTAINER/BOTTLE CAP WITH A STORAGE COMPARTMENT



(57) Abstract: A re-usable closure cap for a liquid container (5) for storing a substance (6) for mixing with a body of fluid material within the container, the closure cap comprising a primary member (1) including an internally threaded skirt, a storage container (2) associated or co-operative with the primary member providing a non-piercable compartment for the storage of a non-flowable substance (6), and a closure means (3) associated with the primary member and/or storage container for closing off the storage container.

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## CONTAINER/BOTTLE CAP WITH A STORAGE COMPARTMENT

### TECHNICAL FIELD

The present invention relates to a container/bottle cap/lid top incorporating a specially designed, built in compartment to safely and hygienically hold and store substances, including both compounds and liquids, that can be added to the contents of the container/bottle when required.

### BACKGROUND ART

A number of patents have here been issued for containers having caps providing compartments which facilitate the storage of a substance for mixture with a main body of material within a container.

WO 98/00348A (Gartner et al) discloses a closure cap with a compartment for the storage of a substance having a repletable membrane upon opening.

W0 99/47428A (Aptargroup Inc.) discloses a flip lid closure cap with compartment and a frangible membrane breakable by piercing protected by a tamper-evident band and closure cap screwed onto a container.

United States Patent no's 5692644, 5277303, 6076570, 5029718, 4785931 and 5909753 describe further examples of caps for containers which temporarily store substances for mixture with a main body substance within a container.

All of the above patents are based on the concept of a piercable membrane the breakage of which facilitates the mixture of materials within a storage area within a cap with a main body of material within a container. As a result the moulding required to produce the caps is complex and expensive. The caps are not re-usable.

It has become common knowledge that there are large problems in the dispensing of medicines resulting in the inadvertent ingestion of incorrect medications resulting in

serious harm or inconvenience to patients and an apparent need for more accurate and personalised system for dispensing medications.

It is an object of the present invention to provide a container which can safely store substances for subsequent mixture or consumption with the contents of the container.

Further objects and advantages of the present invention become apparent from the ensuing description which is given by way of example relating to a purposeful and useful container/bottle, cap/lid top design that incorporates a special, securable, storage/holding compartment, that is ideally designed into the superior surface of the cap/lid top of the container/bottle.

### DISCLOSURE OF INVENTION

According to the present invention there is provided;

- a. a closure cap for a liquid container for storing a substance for mixing with a body of fluid material within the container the closure cap comprising;
- b. a primary member including an internally threaded skirt for engagement with a threaded neck of a storage container,
- c. a storage container associated with or co-operative with the primary member said storage container providing a non-piercable compartment for the storage of a substance for mixture or consumption liquid within the container, and

The closure means can be associated with the primary member and /or the storage container for closing off the storage container.

The primary member can be a cap having an internally threaded peripheral skirt and the closure means is provided by the top wall of the cap.

The storage container can be a tub-like member having an upper peripheral flowage which is secured by the primary member at the opening to the container.

The storage container with closure means can be fitted to the primary member.

The closure means can be a flip cap.

The closure means can be a screw cap.

The primary member storage container and closure means can be integrally formed.

The primary member and container can be integrally formed and adapted for attachment to the storage container

### **BRIEF DESCRIPTION OF DRAWINGS**

Aspects of the present invention will now be described with reference to the accompanying drawings in which;

Figures 1a, 1b, 1c show one form of closure cap according to the present invention, and,

Figures 2a, 2b, 2c show another form of closure cap according to a further aspect of the present invention, and,

Figures 3a, 3b, 3c show another form of closure cap according to a further aspect of the present invention, and,

Figures 4a, 4b, 4c show another form of closure cap according to the present invention, and,

Figures 5a, 5b, 5c show another form of closure cap according to the present invention.

Figures 6a to 6c of the drawings show another form of closure cap according to the present invention.

With respect to the drawings, the present invention is based on the provision of three structural elements, namely;

- a. a primary member attachable to a container,
- b. a storage container,

c. a closure means, for closing off the storage container.

Elements (a), (b) and (c) as stated in the disclosure of invention are indicated by arrows 1, 2, and 3 in the ensuing description, with supplementary description of variations between alternative concepts within the scope of the present invention.

With respect to figures 1a to 6c of the drawings the following elements are common to all illustrations;

1. A primary member generally illustrated by arrow 1,
2. A storage container generally indicated by arrow 2,
3. Closure means generally indicated by arrow 3.

With respect to figures 1a to 1c of the drawings the primary member 1, locks a tub-like storage container 2, on the threaded neck 4 of a container 5.

In accordance with the present invention a substance 6 for mixture with a main body of liquid within the container 5 is secured within the storage container 2.

With respect to figure 2a to 2c of the drawings a primary member 1 is mounted on the threaded neck of a container 5.

The primary member 1 is provided a snap-on or threaded container 7 with a flip top cap 8 facilitating the storage of a substance 6 for admixture with a main body of liquid within the container 5.

With respect to figures to figures 3a to 3c of the drawings in another variation of the present invention a container 5 is provided with a primary member 1 engagable with threaded neck 4 of a container 5. In this case the closure member 3 is a snap fit on the primary member 1 and or add-mixture substance 6 stored within a compartment 2 created by the closure 3 and the member 1.

With respect to figures 4a to 4c of the drawings, this embodiment of the present invention is very similar to that of the previously described embodiment of figures 3 to 3c except that the closure 3 is a flip-top cap 8 as is well known in the art.

With respect to figures 5a to 5c of the drawings in another embodiment of the present invention the primary member 1 embodies a storage container 2 and the closure member 3 is a flip-top cap 8. The admixture or substance 6 is stored within the container 2.

With respect to figures 6a to 6c of the drawings, the same basic elements are provided as in the previously described embodiments. In this case the primary member 1 provides the storage container 2 and the structure is improved by the addition of a tamper-evident cap 9 and seal 10 (usually wrapped in a plastic sleeve - not shown).

This invention has unlimited practical commercial uses in a very wide cross section of markets. The examples which follow are to help describe the invention and some useful applications, but its uses are by no means limited to these.

- a) Retail use: therapeutic /personal health, this invention could be retailed through outlets, from supermarkets to small corner stores, with the bottle holding spring water and the storage compartment holding sealed analgesic/antacid/vitamin/health tablet, or other.
- b) Therefore the consumer can buy this product as one purchase which will be economical, hygienic and very convenient.
- c) This invention therefore allows a very simple, cheap and convenient product which will be of use to almost every person. Statistics suggest that almost all people would make use of this invention and many on a regular basis.
- d) The reusable use: this invention with the reusable material which can be microwaved, frozen and/or sterilised etc. could be used safely, hygienically and

conveniently administer medications/therapeutics to all ages, with a prescribed mixture, on a predetermined regular basis, independent of the local or changing environment.

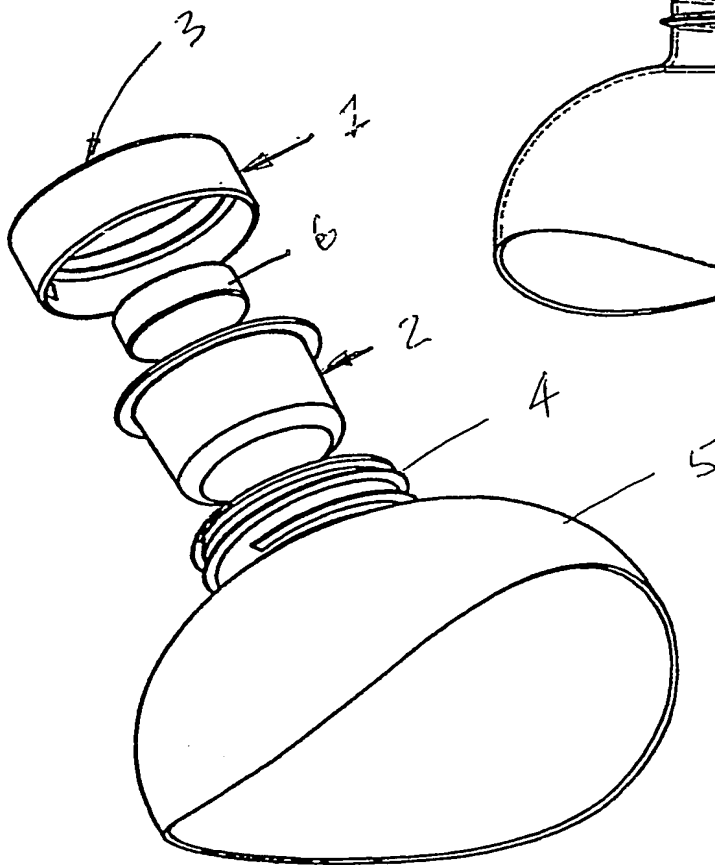
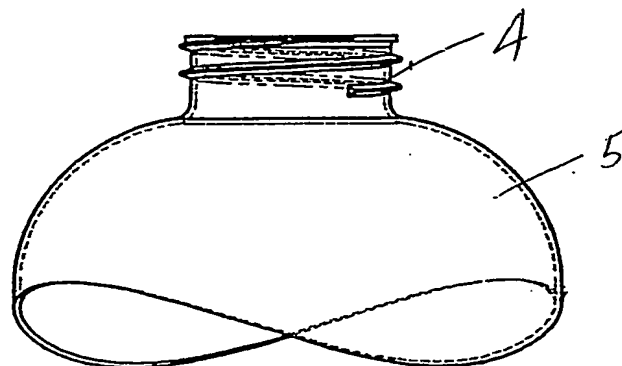
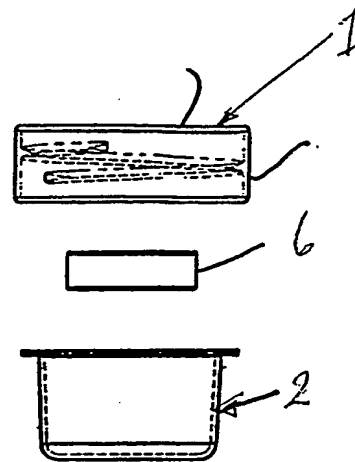
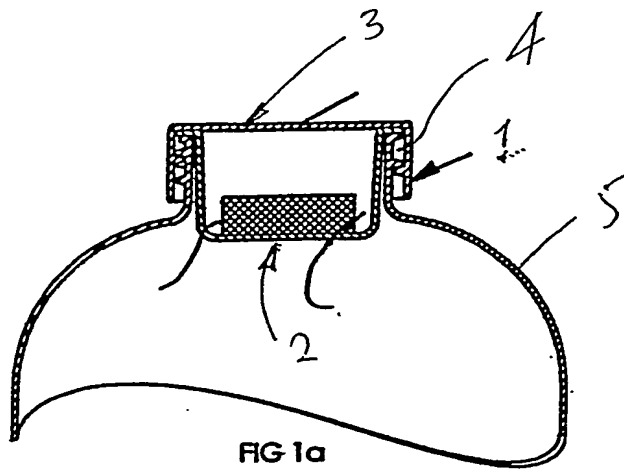
This invention has unlimited beneficial uses in both of the one off and the reusable models, in a very wide cross-section of markets.

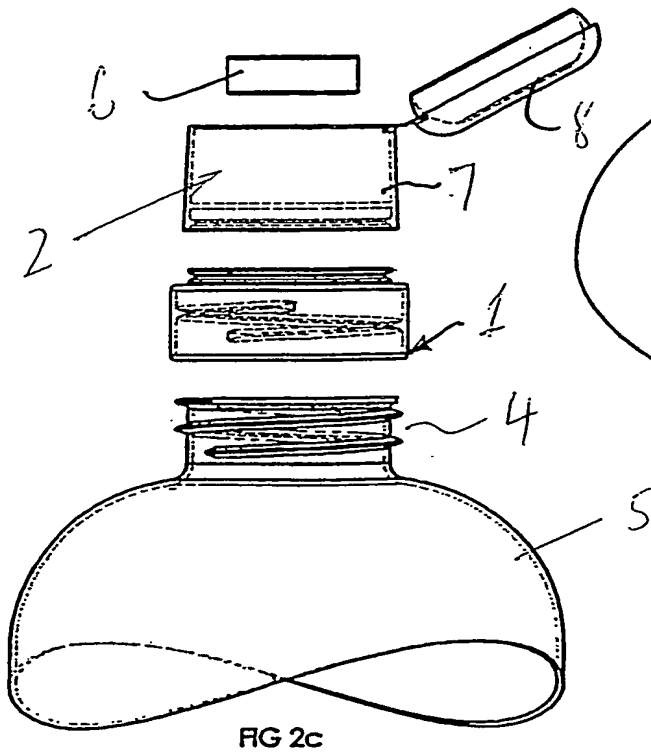
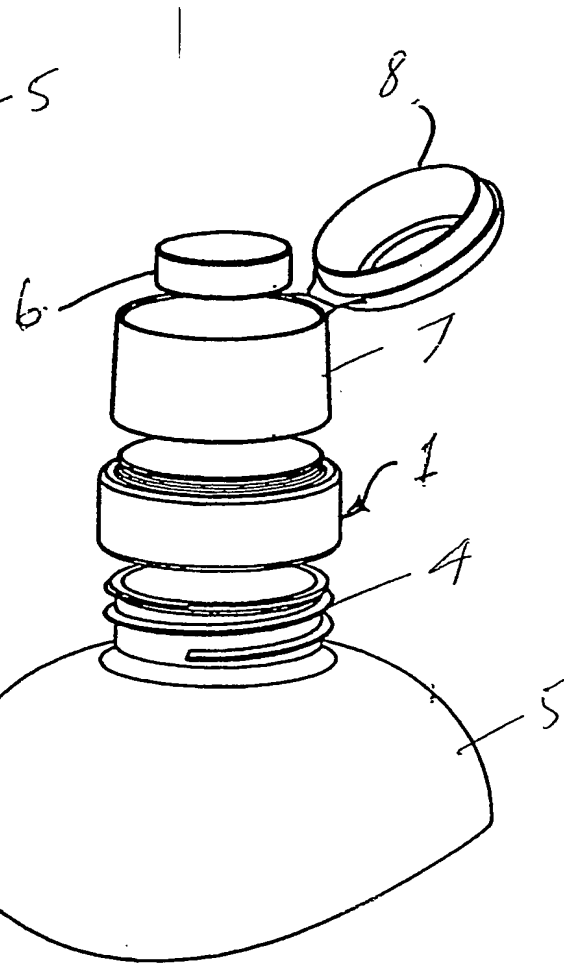
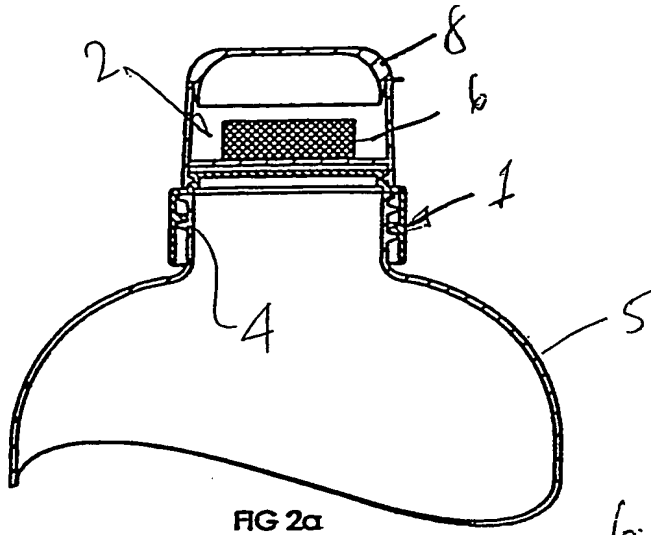
Aspects of the present invention have been described by way of example only and modification and addition thereto may be made without departing from the scope thereof as defined in the appended claims.

**CLAIMS**

1. A reusable closure cap for a liquid container for storing a substance for mixing with a body of fluid material within the container the closure cap comprising;
  - a) a primary member including an internally threaded skirt for engagement with a threaded neck of a storage container, and
  - b) a storage container associated with or correlative with the primary member said storage container providing a non-piercable compartment for the storage of a non-flowable substance for mixture or consumption liquid within the container, and
  - c) a closure means associated with the primary member and /or the storage container for closing off the storage container.
2. A closure cap as claimed in claim 1 wherein the primary member is be a cap having an internally threaded peripheral skirt and the closure means is provided by the top wall of the cap.
3. A closure cap as claimed in claim 1 wherein the storage container is a tub-like member having an upper peripheral flange which is secured by the primary member at the opening to the container.
4. A closure cap as claimed in claim 1 wherein the storage container with closure means is fitted to the primary member.
5. A closure cap as claimed in 4 wherein the closure means is a flip cap.
6. A closure cap as claimed in claim 4 wherein the closure means is a screw cap.
7. A substance means as claimed in claim 1 wherein the primary member storage container and closure means are be integrally formed.
8. A closure member as claimed in claim 1 wherein the primary member and container are integrally formed and adapted for attachment to the storage container







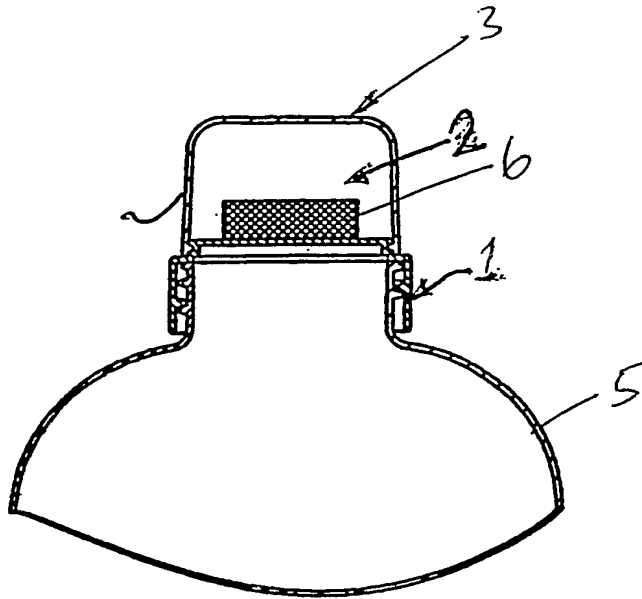


FIG 3a

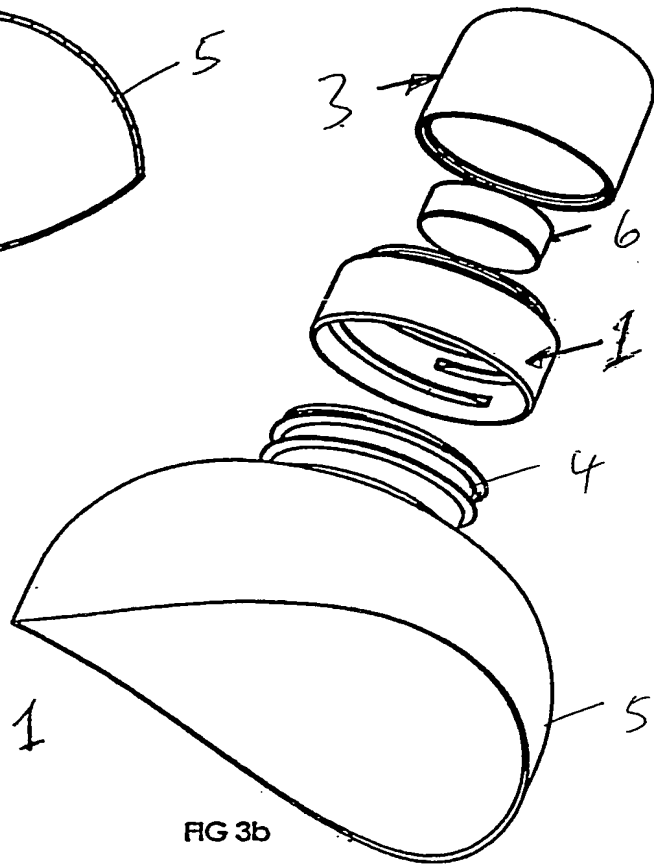
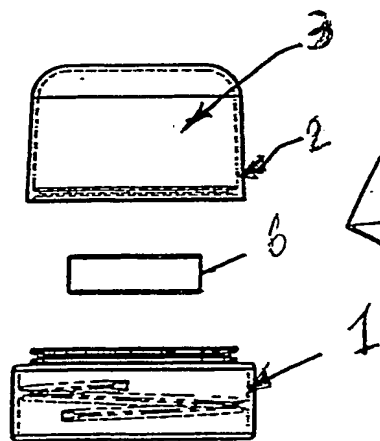


FIG 3b

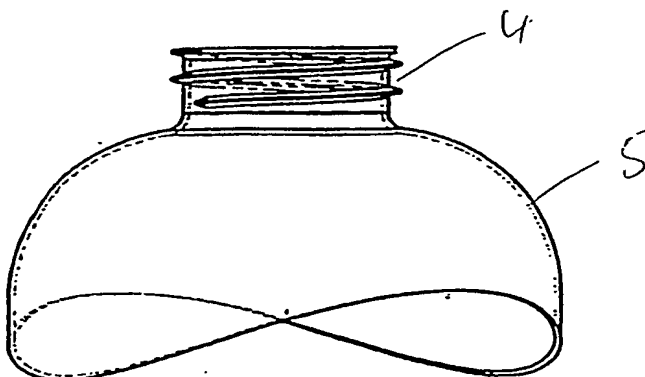
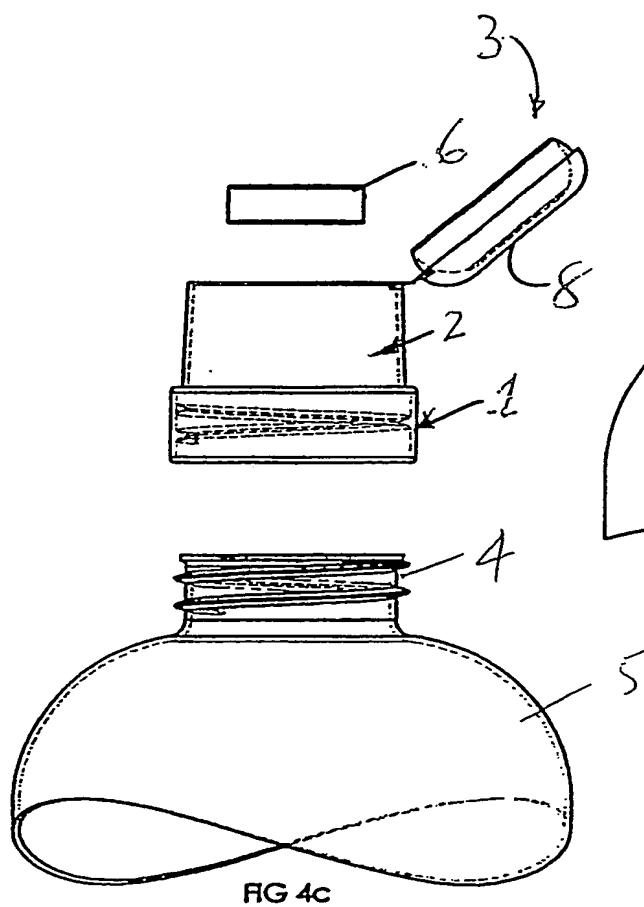
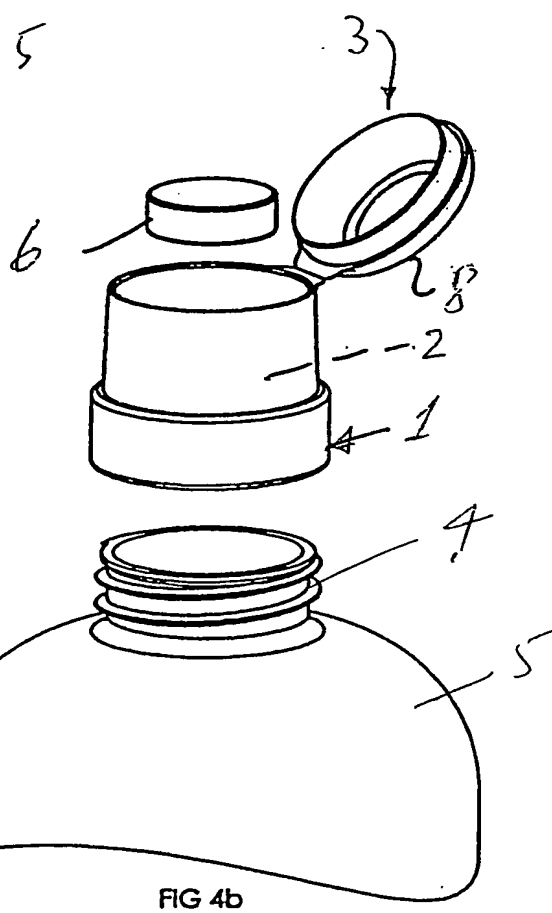
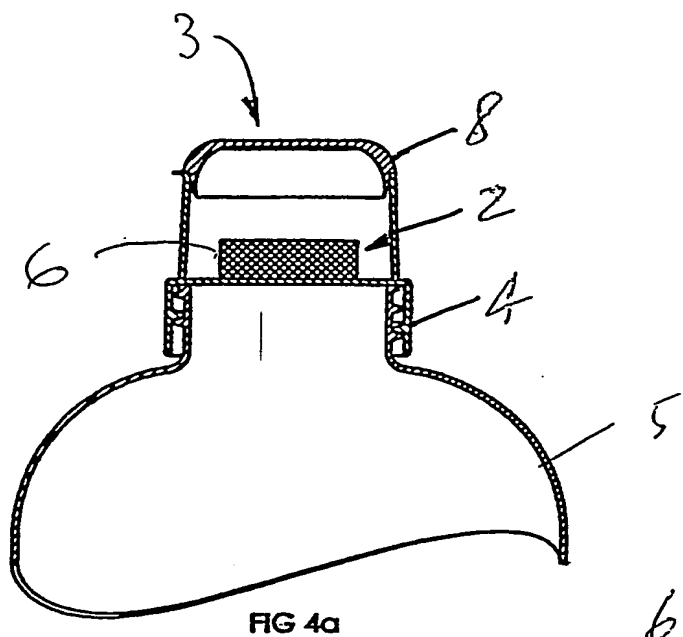


FIG 3c



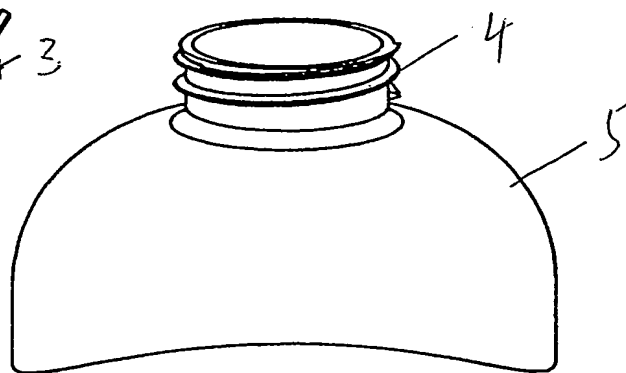
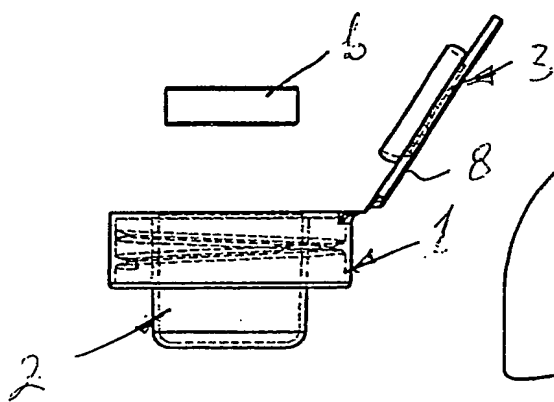
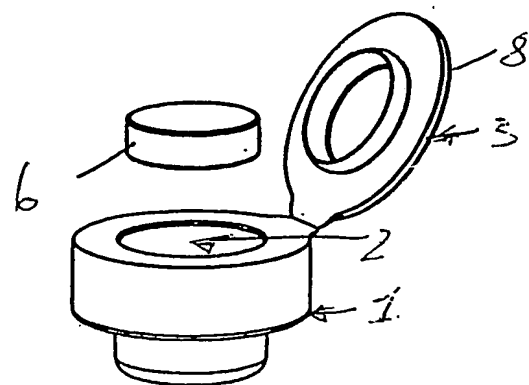
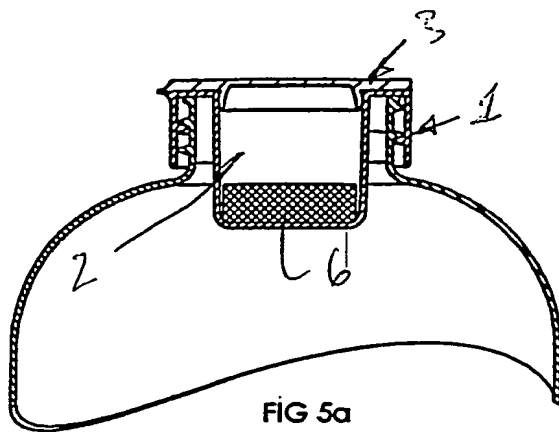
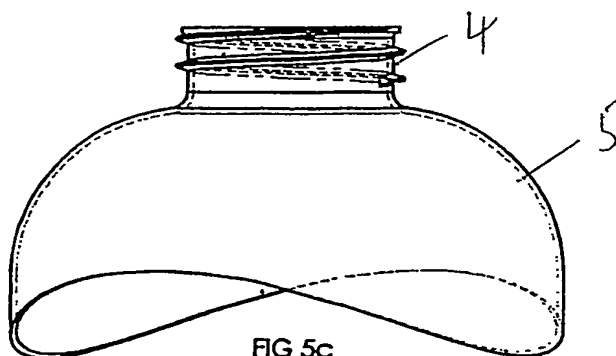


FIG 5b



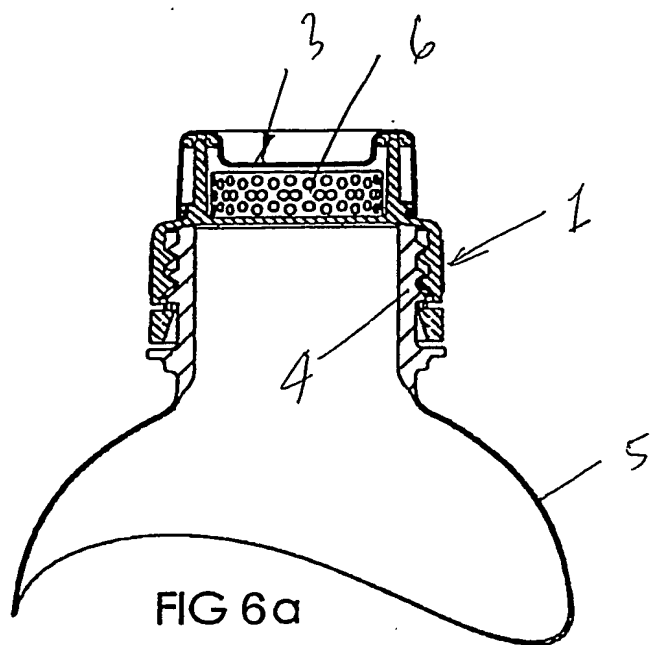


FIG 6a

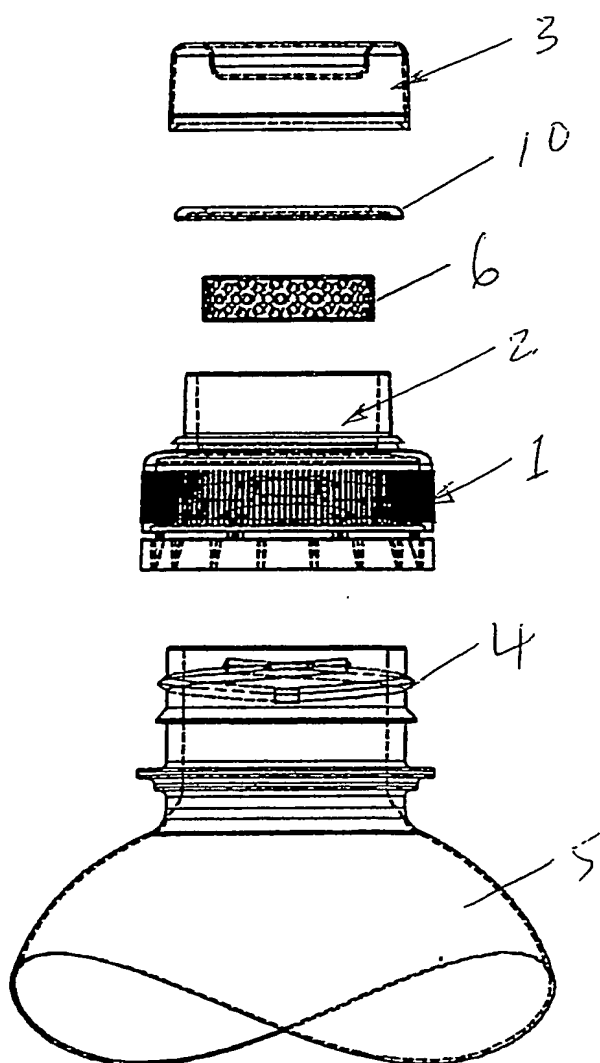


FIG 6b

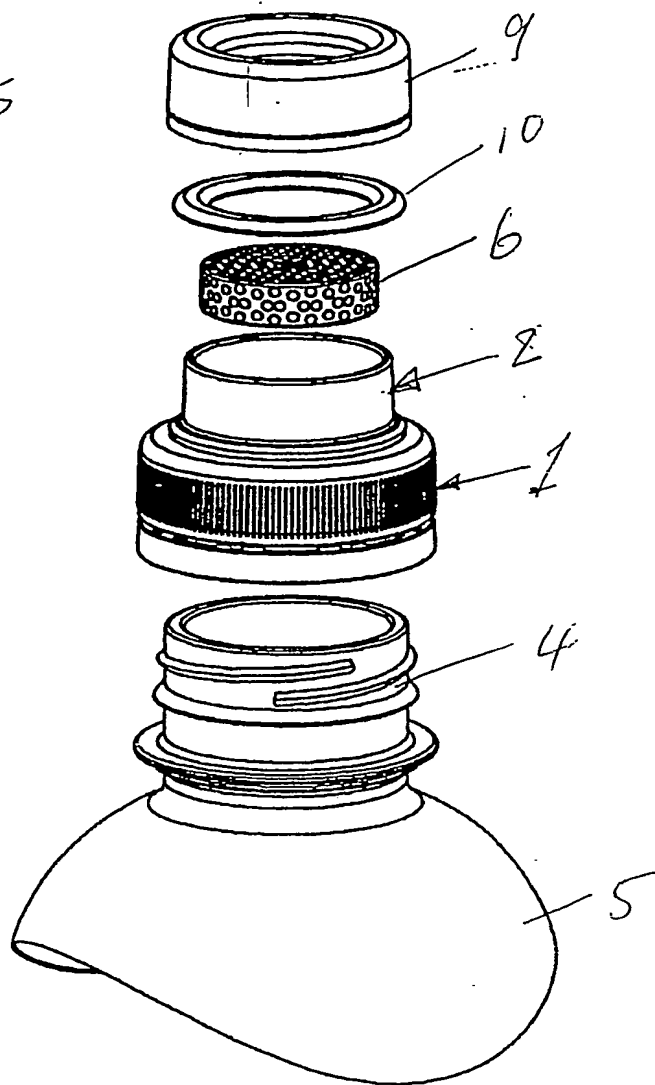


FIG 6c

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU02/01452

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>												
Int. Cl. <sup>7</sup> : B65D 51/28, 81/32												
According to International Patent Classification (IPC) or to both national classification and IPC												
<b>B. FIELDS SEARCHED</b>												
Minimum documentation searched (classification system followed by classification symbols) Refer to electronic database consulted below												
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched												
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) DWPI; IPC B65D, A61J 1/03 and keywords: cap, closure, compartment, housing, chamber, recess, thread, screw, tablet, pill, capsule, reusable, separate, isolate, add, mix; and like terms												
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>												
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.										
X	US 5769263 A (WILLINGHAM ET AL) 23 June 1998 See entire document	1-8										
P,X	WO 02/059009 A (OLSEN) 1 August 2002 See entire document	1-8										
X	WO 00/73167 A (ALCOA CLOSURE SYSTEMS INTERNATIONAL, INC.) 7 December 2000 See entire document	1-8										
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex												
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed	
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Date of the actual completion of the international search 16 December 2002		Date of mailing of the international search report - 7 JAN 2003										
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929		Authorized officer  A. ALI Telephone No : (02) 6283 2607										

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU02/01452

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2800042 A (BESNIER) 27 April 2001 See figure 1, abstract	1-8
X	GB 2321231 A (PARKINSON) 22 July 1998 See entire document	1-8
P,X	DE 20019838 U (OMIRATE) 7 February 2002 See figure 2 in particular	1-8